ستبير

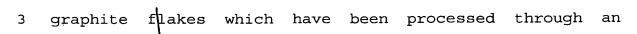


We claim:

- 1. A coated fuel cell bipolar plate comprising:
- a metal plate including an outer surface;
- an electrically conductive coating over the outer
- 4 surface; and
- an overcoating formed over the coating, the
- 6 overcoating including graphite.
- 1 2. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the metal plate is formed with aluminum.
- 1 3. A coated fue cell bipolar plate as claimed in
- 2 claim 1, wherein the coating is a graphite emulsion. (line)
- 1 4. A coated fuel dell bipolar plate as claimed in
- 2 claim 1, wherein the coating includes graphite particles
- 3 in an organic suspension same as 3
- 1 5. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the overdoating includes exfoliated
- 3 graphite. (thin layers, fliky, p)
- 1 6. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the overcoating \includes porosities that
- 3 are filled by the coating.
- 7. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the overcoating is a \foil.
- 1 8. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the overcoating includes particulate



intercalation process.



- 9. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the overcoating is electrically
- 3 conductive.
- 1 10. A coated fuel cell bipolar plate as claimed in
- 2 claim 1, wherein the overcoating is hydrophobic.



- 11. A coated fuel cell bipolar plate as claimed in claim 1, wherein the overcoating is anisotropic.
- 1 12. A coated fuel cell bipolar plate as claimed in 2 claim 1, wherein the overcoating has a thickness 3 approximately between 0.04 and 1.0 millimeters.
- 1 13. A method of manufacturing a coated bipolar plate 2 for a fuel cell, the method comprising the steps of:
- providing a metal plate with an outer surface;
- providing an electrically conductive coating over the outer surface; and
- providing an overcoating over the coating, the overcoating including graphite.
- 1 14. A method as claimed in claim 13, wherein the 2 coating is an emulsion, suspension or paint including 3 graphite particles. (DAG^{TH}) hcheson
- 1 15. A method as claimed in claim 13, wherein the 2 overcoating includes exfoliated graphite.



16. A method as claimed in claim 13, wherein the step of providing the overcoating includes pressing at least one sheet of graphite foil over the coating.

1 17. A method as claimed in claim 16, wherein the metal plate is heated during the pressing step.

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18. A method as claimed in claim 13, further comprising the step of:

forming a flow field on the overcoating.

1 19. A method as claimed in claim 13, further 2 comprising the step of:

mechanically deforming the metal plate, the coating and the overcoating to create a flow field.

20. A method of manufacturing a coated bipolar plate for a fuel cell, the method comprising the steps of:

providing a metal plate with an outer surface;

providing an electrically conductive coating over the outer surface; and

providing an overcoating over the coating, the overcoating being electrically conductive and hydrophobic.